ABSTRACT

A system and method are provided which enable parallel image reconstruction of multiple depth layers of an object. More specifically, a system and method are provided in which pixels are captured for an object and such pixels are processed to reconstruct voxels for multiple depth layers of the object in parallel. In one embodiment, a reconstruction processor comprises at least one input port for receiving pixels of a radiographic image of an object, and at least one input port for receiving position data associated with a received pixel. It further comprises processing logic operable to determine, based at least in part on the received position data of a received pixel, a first and second voxel of a first and second layer of the object, respectively, to which the received pixel contributes, and further operable to apply the contribution of the received pixel to the first and second voxels in parallel.